

Appl. No.
Filed

: Unknown
: Herewith

7. (New) A laser welding head-controlling system for controlling the position of a laser welding head with respect to an target area of objects to be welded, comprising:
at least two semiconductor lasers for emitting linear laser beams at a predetermined angle toward the target area;
a CCD camera provided with a band-pass filter, through which linear laser beams reflected by the objects pass exclusively, to generate an image of the target area; and
an image processor for processing the image of the target area to determine the progress of welding, thereby controlling the position of a laser welding head.

8. (New) The laser welding head-controlling system according to Claim 7, further comprising a CAD data system which stores CAD data of the objects, said data being used to control the position of the laser welding head.

9. (New) A laser welding head comprising the laser welding head-controlling system of Claim 7, a laser oscillator to oscillate a laser for welding, and a condenser to converge the oscillated laser.

10. (New) A method for controlling the position of a laser welding head with respect to a target area of objects to be welded, comprising the steps of:
emitting at least two linear lasers beams at a predetermined angle toward the target area;
generating an image of the target area exclusively from linear laser beams reflected by the objects passing through a band-pass filter, using a CCD camera provided with the band-filter;
processing the image of the target area to determine the progress of welding; and
controlling the position of the laser welding head.

11. (New) The method according to Claim 10, further comprising using CAD data of the objects to control the position of the laser welding head.

REMARKS

Claim 5 has been amended to change the multiple dependency to a single dependency. Claims 6-11 have been added in accordance with U.S. practice. No new matter has been added.